African Water Facility
Facilité africaine de l'eau
Mobilising Resources for Water in Africa

AWF's Transboundary Water Resources Management Programs and Projects

Dr. Akiça Bahri

Coordinator, African Water Facility

1st ICA Water Platform Meeting
8-9th March, 2012, Frankfurt, Germany
"Transboundary Water Resources: Financing & Climate Change Adaptation"

AWF

- **A financing mechanism that leverages investments to accelerate the improvement of water resources development and management in Africa**
- **Established and hosted in 2004 by the AfDB at the request of AMCOW**

•Total financing mobilized **EURO 136 million**

•AfDB, Algeria, Australia, Austria, Canada, Denmark, European Commission, France, Norway, Senegal, Spain, Sweden, United Kingdom, Bill and Melinda Gates Foundation

AWF niche

African Water Facility
Facilité africaine de l'eau
Mobilising Resources for Water in Africa

- A demand-driven African instrument
- Smaller upstream projects of up to €5 million
- Innovative and catalytic projects
- Able to fast track the processing of projects (approval process)
- Funds targeted to a wide variety of African institutions: NGOs and CBOs, municipalities up to national and regional entities

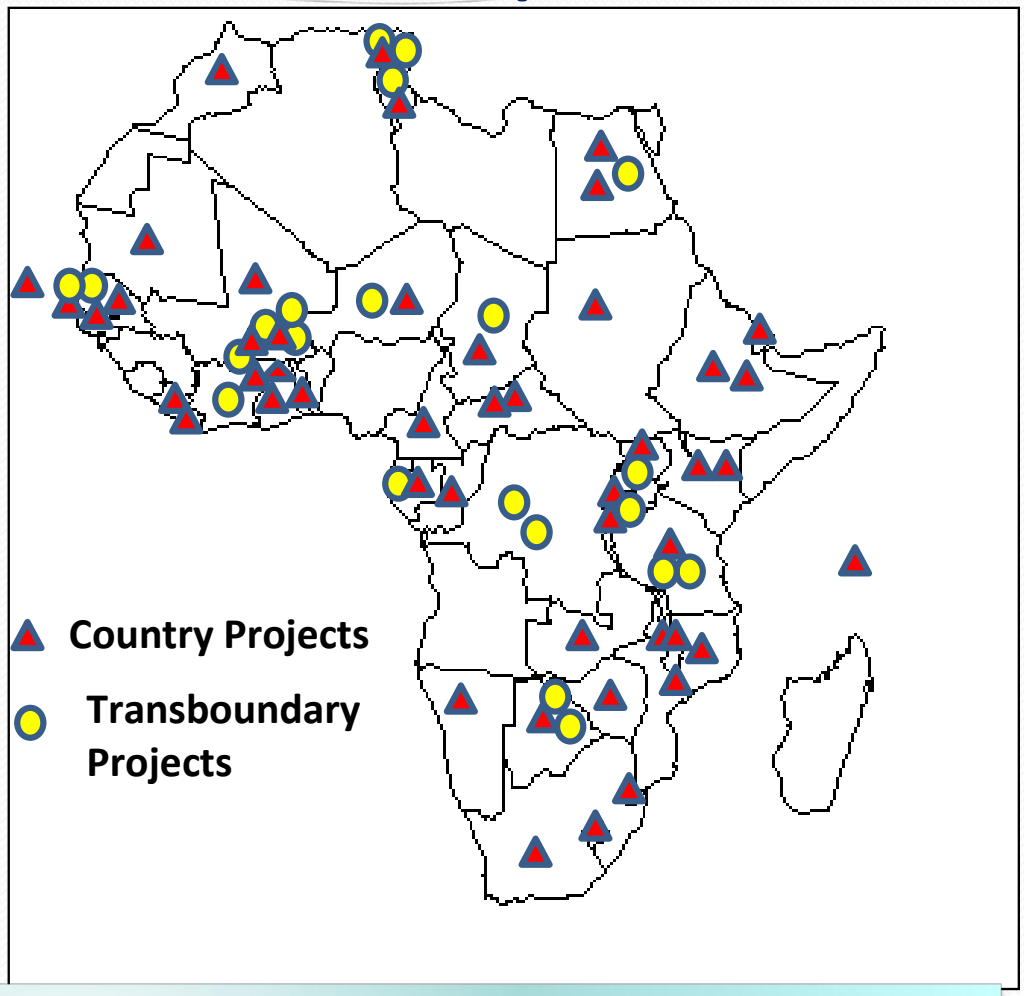
Geographical Distribution of Portfolio and Impact

African Water Facility
Facilité africaine de l'eau
Mobilising Resources for Water in Africa

71 projects approved (€86.7 million)

50 countries and

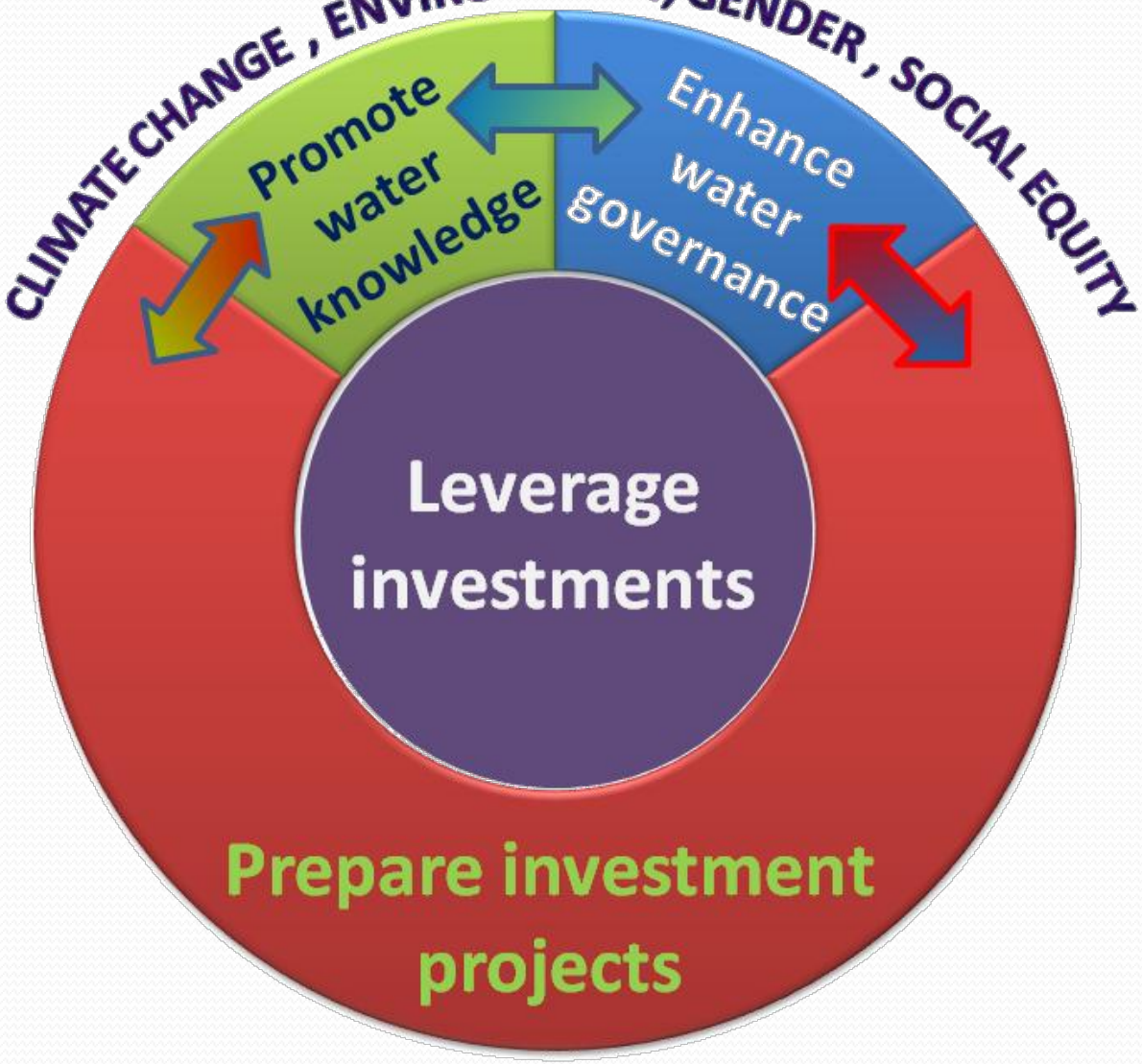
8 regional institutions have benefited from AWF support



- **27 million people potentially impacted**
- **€420 million (5 times the AWF portfolio) leveraged to finance water sector interventions**

Strategic Priorities (2012-2016)

African Water Facility
Facilité africaine de l'eau
Mobilising Resources for Water in Africa



African Water Facility
Facilité africaine de l'eau
Mobilising Resources for Water in Africa

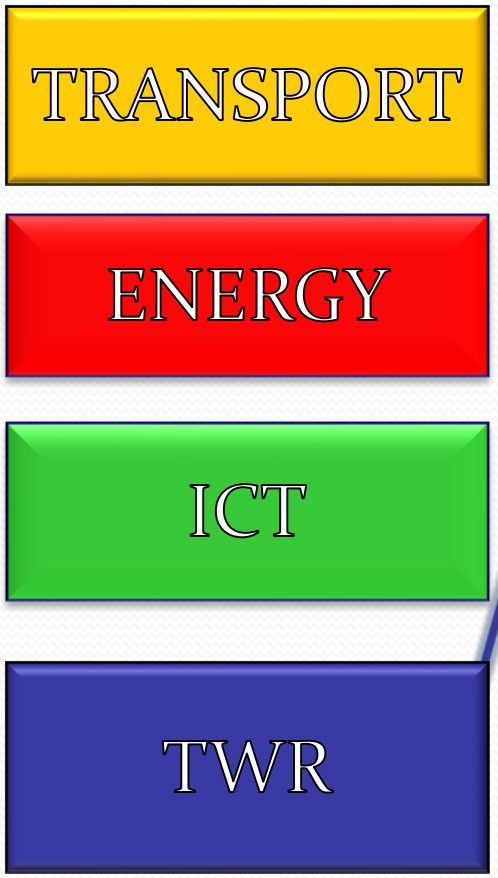
Budget allocation by strategic priority

- Bankable national, regional and transboundary projects development
- Small strategic investments

Transboundary Water Resources Management – Projects

- Regional cooperation provides the greatest opportunity for analyzing and understanding the problems and designing strategies for coping with the existing challenges including the impact of climate change and associated hydrologic variability
- Achieving water security to cope with impacts needs significant investments in infrastructure
- AWF TWRM and related project preparation interventions are addressing these climate change and water security issues:
  - Regional program preparation projects: AUC pan-African (PIDA), Lake Victoria, Malawi/Tanzania (Songwe River), SADC region (WSS), Shire-Zambezi, Congo (CICOS)
  - Governance projects: Volta and Kayanga-Geba river basins, Lake Chad, Bugesera area of Burundi/Rwanda, ANBO, and ECCAS region
  - Information and Knowledge projects: NBA, IGAD, GICRESAIT, Geoaquifer, Volta, ECOWAS, Congo (CICOS), Cedare

Program for Infrastructure Development in Africa (PIDA)
4 sectors covered, AWF supports the Transboundary Water Resources Management Component



To enable African decision-makers to establish:

- A strategic framework for the development of regional and continental TWR infrastructures based on shared development vision
- A TWR infrastructure development program articulated around S, M, and LT (2040) priorities by L/RBOs and RECs: Identification of bankable projects
- An implementation strategy including institutional arrangements, a Priority Action Plan and financing options

PIDA's Water Vision

Promote IWRM to develop transboundary water infrastructure projects, strengthen transboundary management frameworks for regional integration and ensure water security for the socio-economic development of Africa by:

- Strengthening institutions for efficient cooperation on shared water resources
- Developing transboundary water infrastructure to meet increasing water demands
- Strengthening finances for transboundary water development and management
- Improving knowledge on transboundary basins and shared aquifers

Types of investments identified from the program preparation

Types of investments

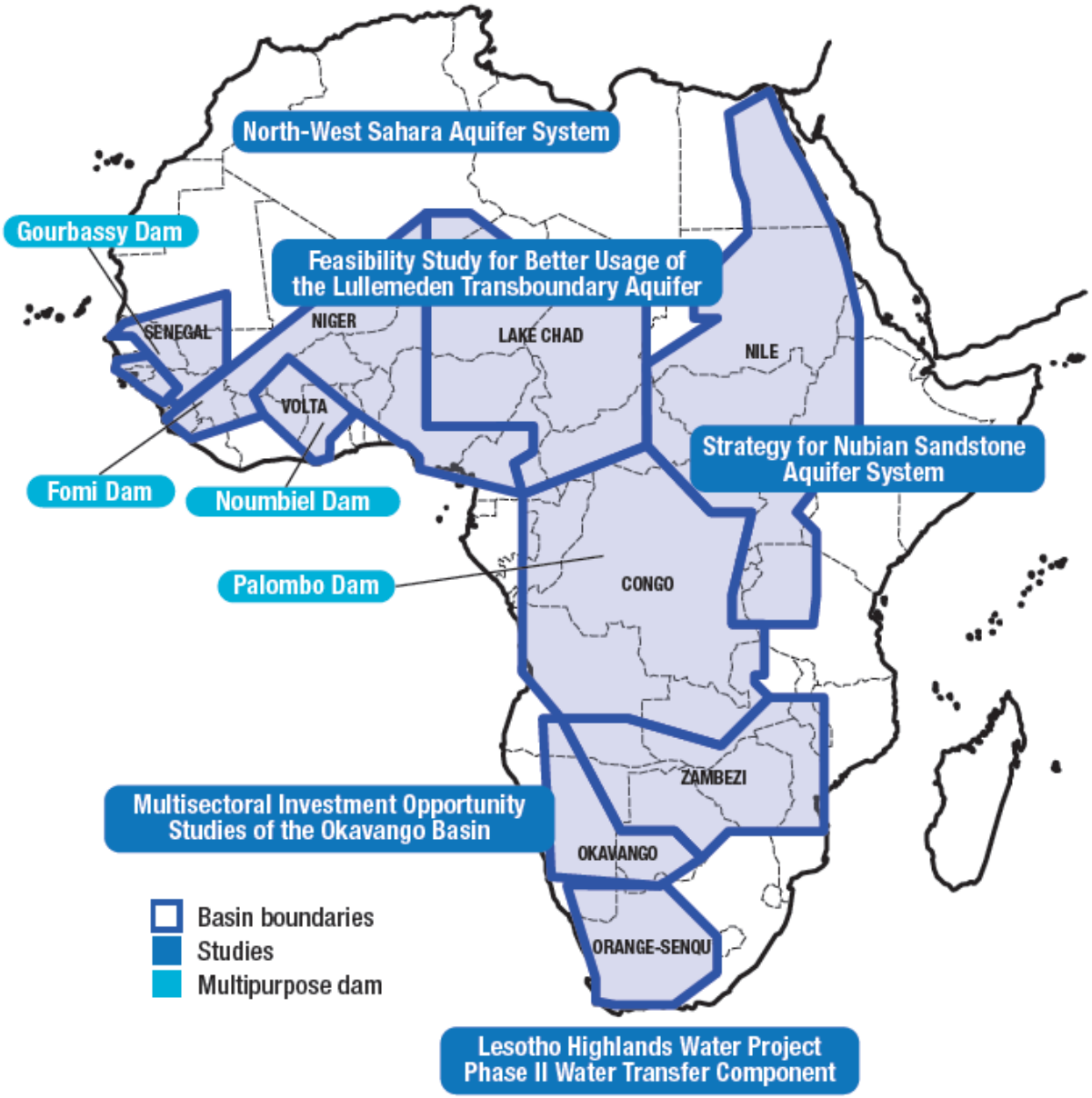
Hydraulic infrastructures – "hard"

- Major dams used for hydropower generation, irrigation, water supply, and flood control
- Major irrigation schemes/areas
- Major intra-basin diversions
- Major inter-basin water diversions

Enabling environment for regional cooperation – "soft"

- Creation of new and strengthening of existing L/RBOs
- Information and knowledge base, including hydrometric networks
- Planning and implementation capacities, modelling tools
- Communication and public awareness
- Monitoring capacities
- Flood and drought early warning systems

PIDA's transboundary water impact



The transboundary water program targets :

- **Multipurpose dams**
- **Capacity building of lake and river basin organizations**
- **Water transfers**

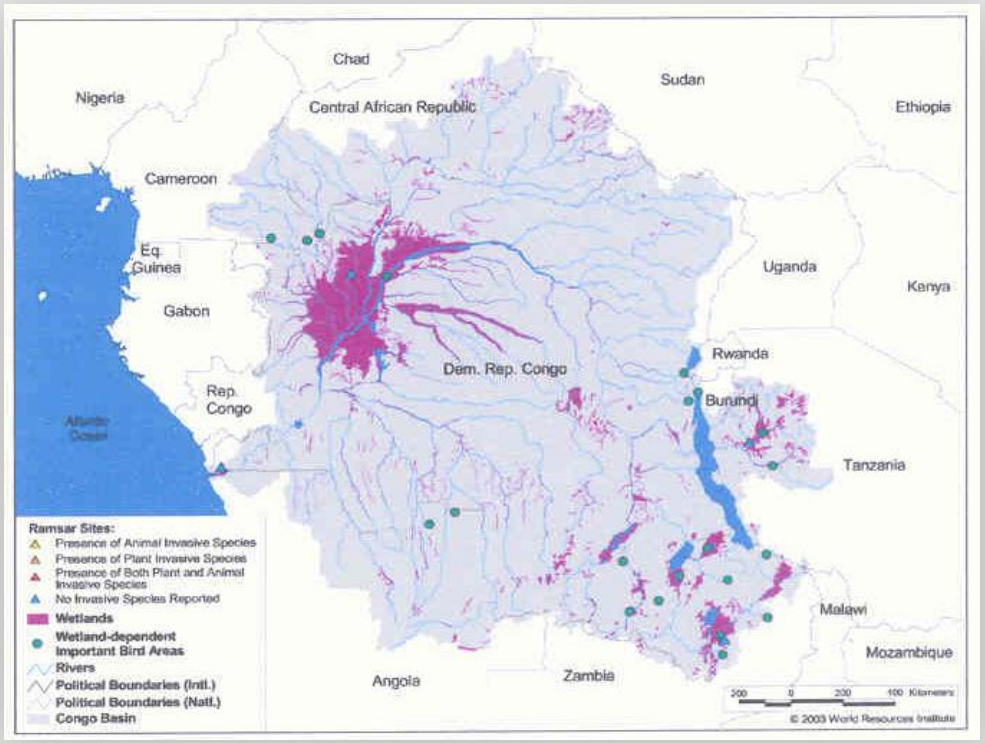
PIDA's Priority Action Plan

Project	Description	Stage	Cost (US$ millions)	Countries	REC	Region
1. Palambo	Regulation dam to improve navigability of Obangui River with added hydropower component	S2	155	Congo River Basin	ECCAS	Central
2. Fomi	Hydropower station in Guinea with irrigation water supply for Mali and regulation of the Niger river (nine countries)	S3	384	Niger River Basin	ECOWAS	Western
3. Multisectoral Investment Opportunity Studies	Identification and preparation of investment programmes in the basin	S1	1	Okavango River Basin	SADC	Southern
4. Lesotho HWP Phase II – water transfer component	Water transfer programme supplying water to Gauteng Province in South Africa	S3	1,100	Orange-Senqu River Basin	SADC	Southern
5. Gourbassy	Multipurpose dam located in Guinea: regulation of the Senegal river (four countries)	S2	NA	Senegal River Basin	ECOWAS	Western
6. Noumbiel	Multipurpose dam with hydropower generation (for Burkina Faso and Ghana) component	S1/S2	NA	Volta River Basin	ECOWAS	Western
7. Nubian Sandstone Aquifer System	Implementation of regional strategy for the use of the aquifer system	S4	5	Nubian Sandstone Aquifer System	UMA	Northern
8. North-West Sahara Aquifer System	Prefeasibility studies for improved use of the aquifer system	S2	2.5	North West Sahara Aquifer System	UMA	Northern
9. Lullemeden Aquifer System	Prefeasibility studies for improved use of the aquifer system	S2	10	Lullemeden and Taoudeni/Tanezrouft Aquifer System	UMA	Northern

Development of a Strategic Action Plan for Sustainable Management of Water Resources in the Congo Basin

Recipient and Executed by: CICOS (International Commission of Congo Oubangui & Sangha Basin)

- Provide the basin with an appropriate institutional and investment framework for sustainable water resources planning and management
- Enhance the capacity of intervention for the actors
- Set up an international partnership for the management of the Congo resources



Congo Basin Strategic Action Plan Execution and Results

- **Amount: €2.205.000 (AWF funding 90%)**
- **Duration: 2007- June 2011**
- **Area of intervention: Cameroon, CAR, DRC, Rep. of Congo**

RESULTS

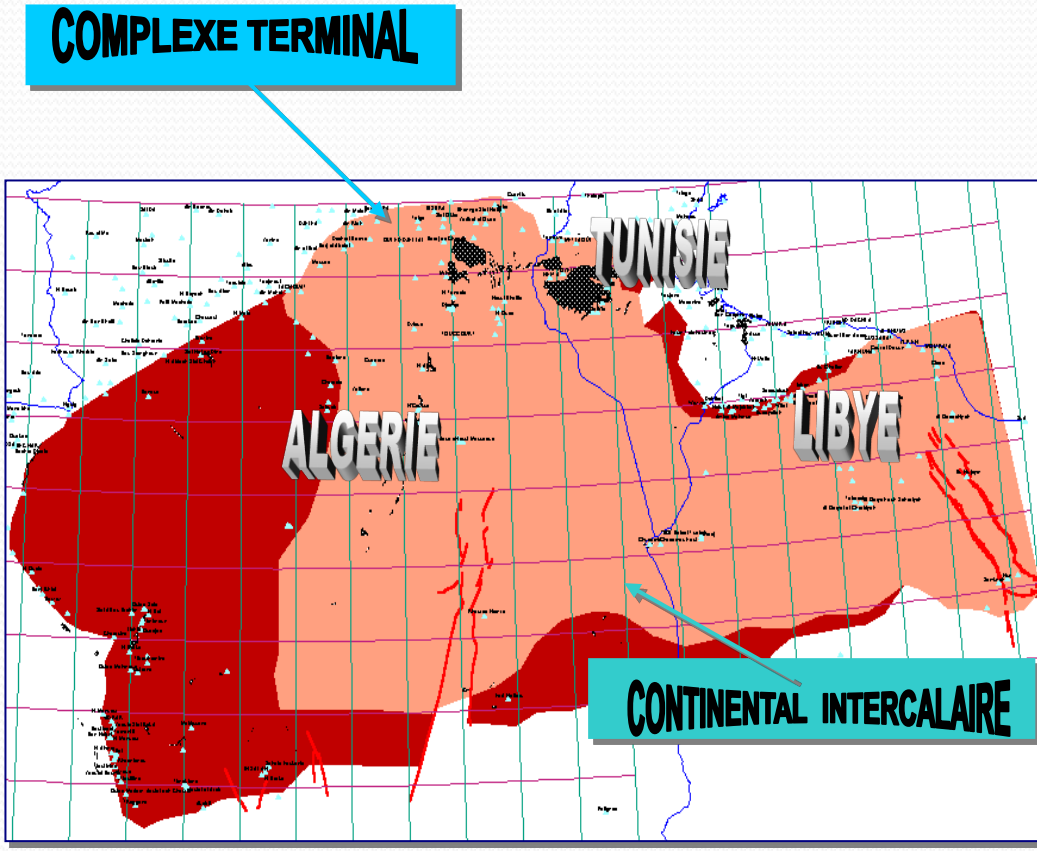
- Dialogue platform set up with stakeholders from the 4 main countries, and financial partners ADB, AFD, GTZ, KFW, WB
- SAP developed and roadmap adopted through a participatory approach mid-2010
- Addressing 18 development issues, 147 transboundary projects identified at €14.6 billion
- SAP disseminated to prospective funders, Donors' Roundtable held in June 2011

Congo Basin Strategic Action Plan: Project Portfolio by type (€ million)

	No. Proj	Amount	No. Projects CICOS	Amount CICOS	No. Projects Others	Amount Other Actors
Hydropower	24	10 216	15	1 593	9	8 623
Navigation	21	3 067	16	172	5	2 895
Fisheries	4	629	4	629	-	-
WSS	4	46	4	46	-	-
Eco-tourism	16	43	16	43	-	-
Transfer projects	6	475	6	475	-	-
Integr Mgmt – Humid zones	13	10	13	10	-	-
Water Quality	9	5	9	5	-	-
Control invading species	9	3	9	3	-	-
Env. education	3	41	3	41	-	-
Hydro-Climate	8	12	8	12	-	-
Information syst	19	9	19	9	-	-
Capacity building	8	4	8	4	-	-
R&D	3	4	3	4	-	-
Total	147	14 564	133	3 046	14	11 518

Geo-Aquifer: North-Western Sahara aquifer system knowledge and water resources management improvement using satellite imagery

- **Financing:** AWF: €487,800
  OSS €76,500 (in-kind)
- **Recipient:** Sahara and Sahel Observatory (OSS)
- **Implemented by:** OSS with support from the European Space Agency (ESA)
- **Partners:** Algeria, Tunisia, Libya
- An expanse of over 1 000 000 km^2
- **Reserves:** 60,000 billion m^3 of which 10,000 billion m^3 exploitable
- **Recharge:** 1 billion m^3
- **Needs (m^3/yr):**
  - 2.2 billion in 2000
  - 8 billion in 2030



North-Western Sahara Aquifer System (NWSAS)

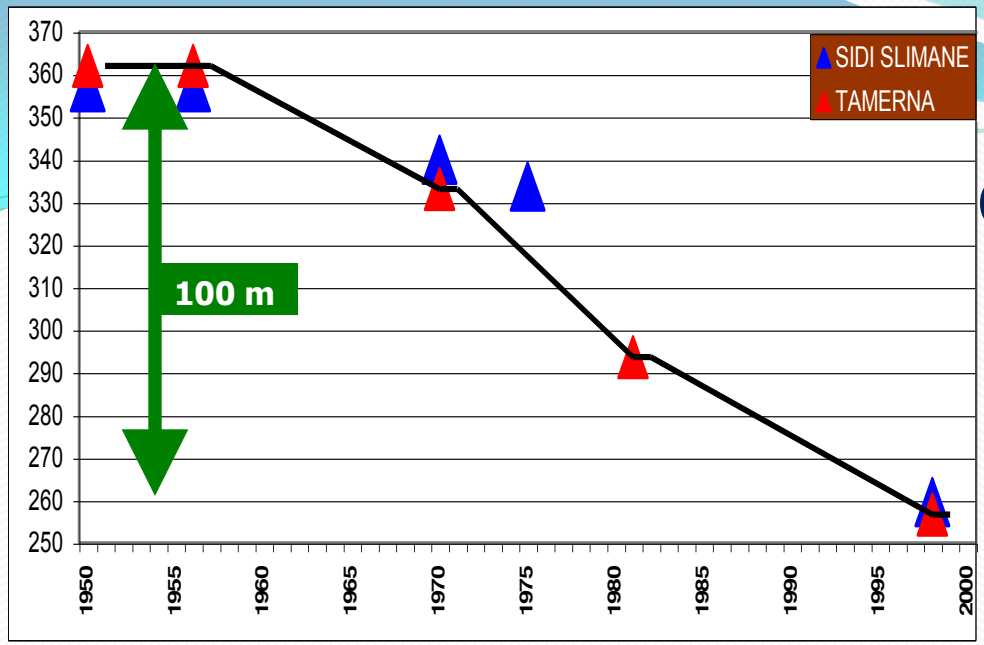
Objectives: **Create an information and knowledge base to support sustainable TGWR of the SASS aquifer at national and sub-regional level.**

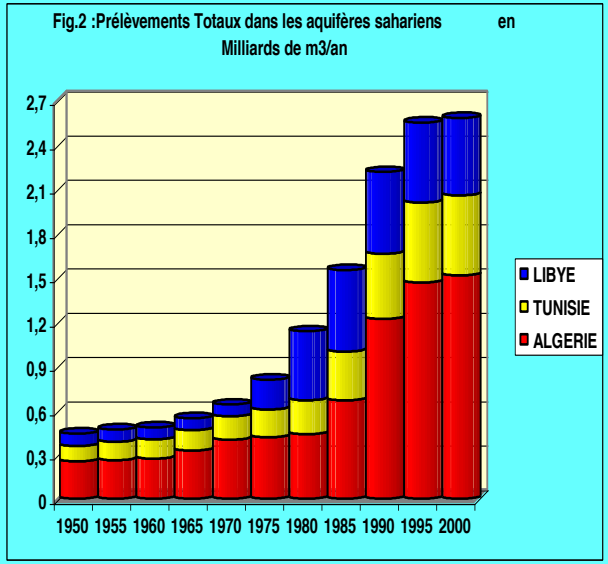
Context and Challenges:

- **Lack of knowledge of the aquifer**
- **Rather inefficient management and abstractions 100% higher than recharge in 2010**
- **Limited consultation at the bilateral level - no shared vision by the 3 countries**
- **Water quality degradation**
- **Uses dictated by national strategies**

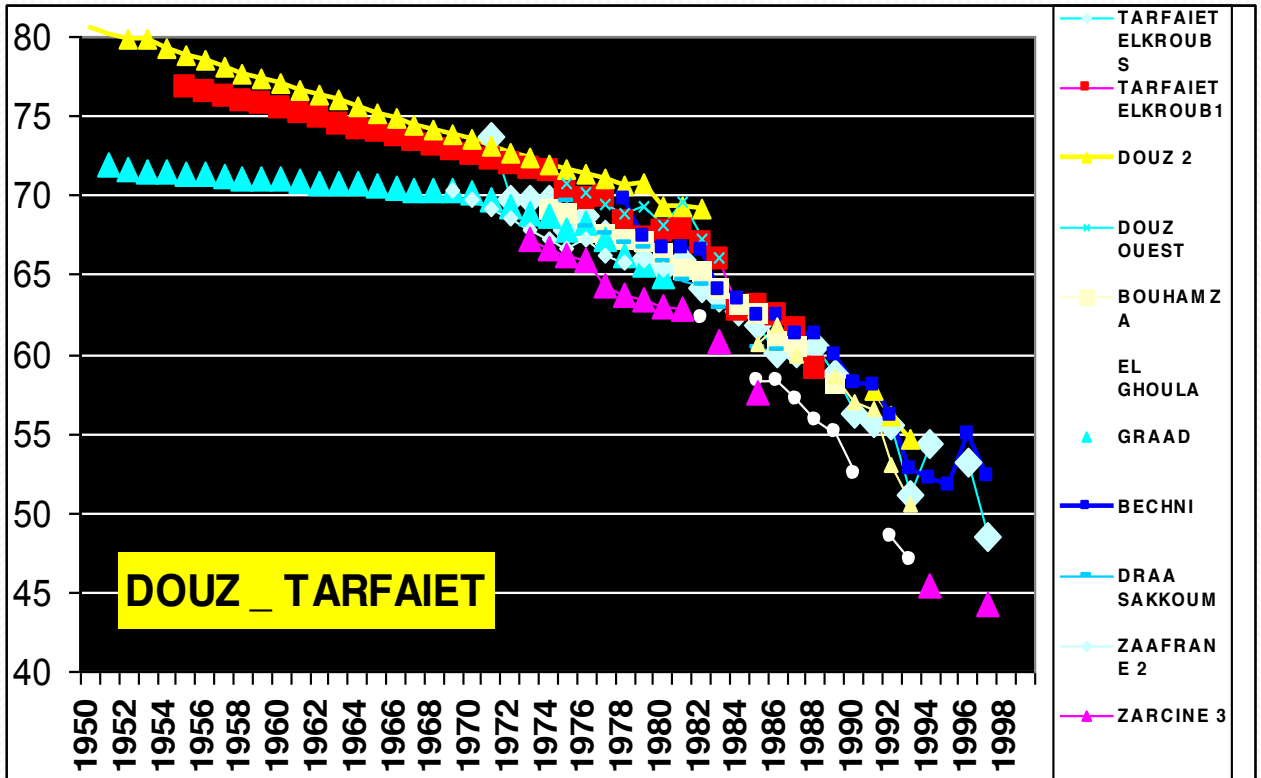
Need for concerted actions to cope with the challenges

Evolution with time of the watertable levels of the Continental Intercalaire and Complexe Terminal





Abstractions per country (billion m³/year)

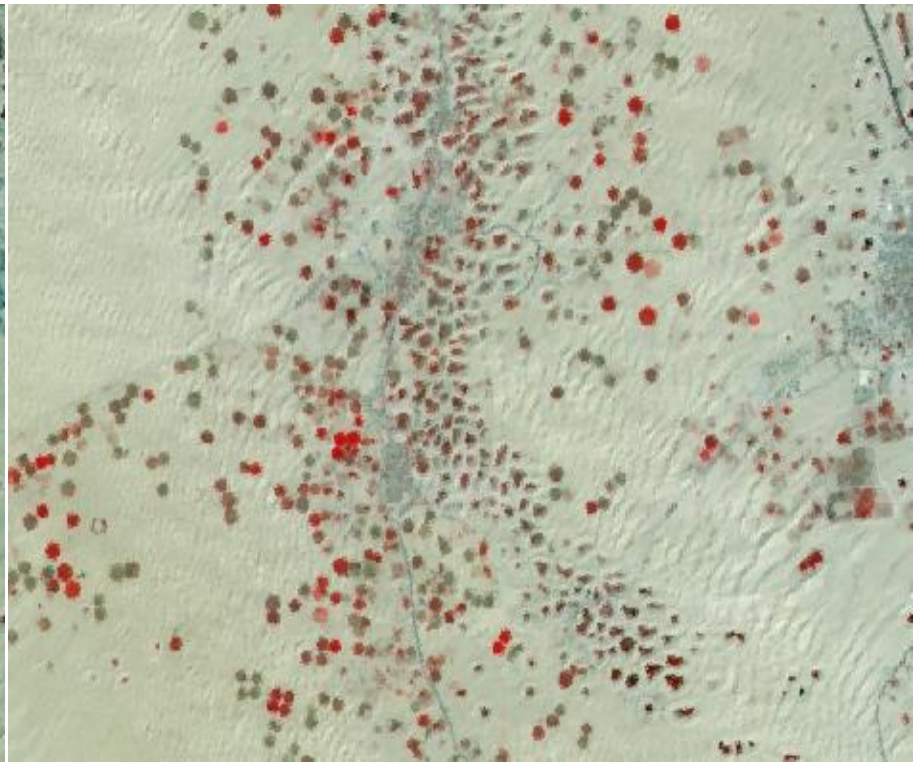


GEOAQUIFER

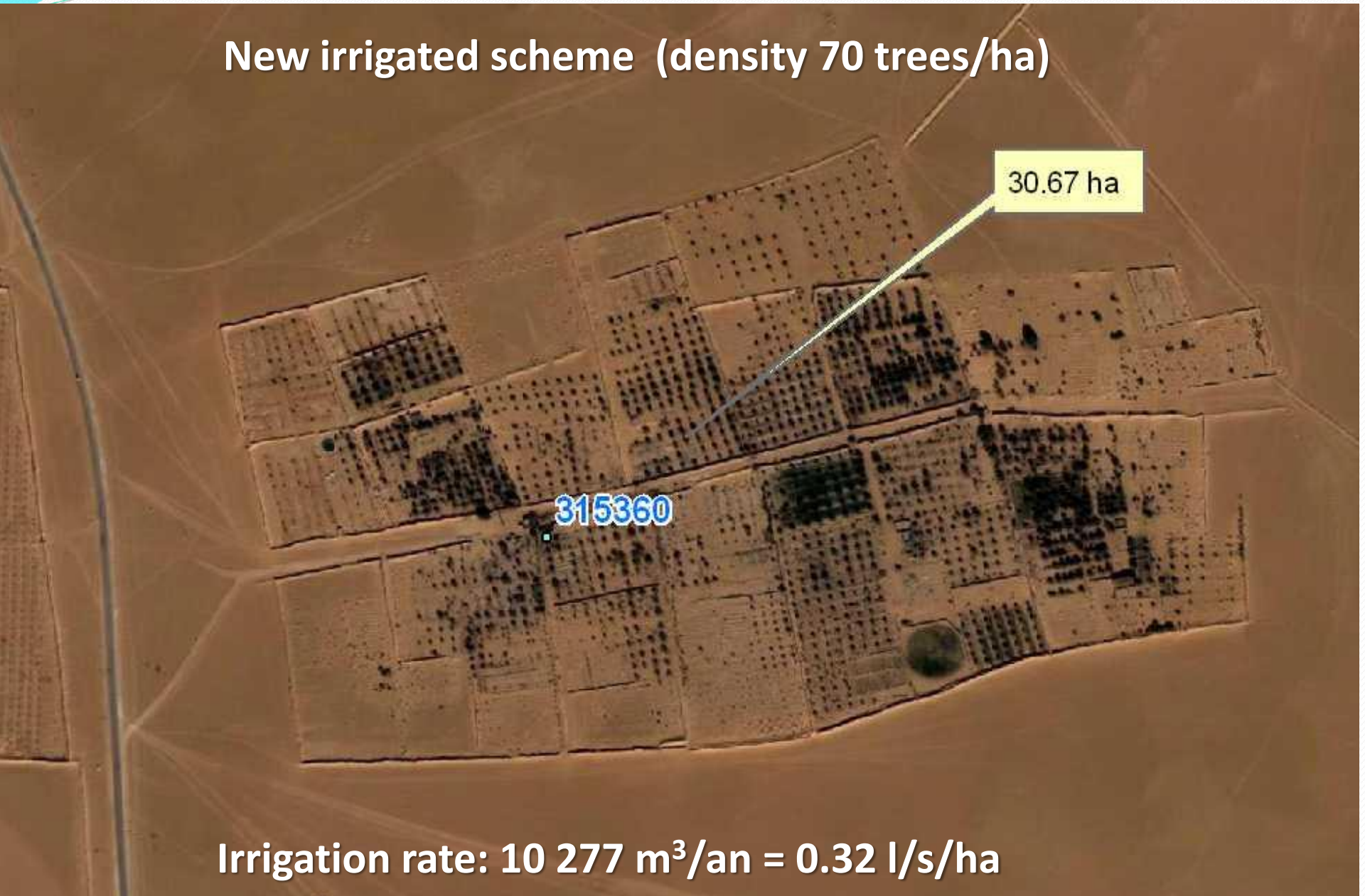
Changes in land use in the El Oued area

1987 – Ghouts

2007 - 12,000 circular pivot irrigation abstracting groundwater



Example of irrigation development using fossil groundwater in the Kebili region (Southern part of Tunisia)



North-Western Sahara Aquifer System (NWSAS)
Achieved Results

- Consolidated hydrological, hydrogeological, and geological studies
- Set up of an integrated information system common to the three countries
- Set up of a global mathematical management model
- Socio-economic and environmental studies conducted: behavior of irrigators, pilot farm plots to improve irrigation efficiency
- Establishment of a tripartite consultation mechanism for the development of their water resources
- Utilization of earth observation data to increase knowledge on water abstractions and evolution of land use and ensure the equitable and optimal use of the available water resources to meet both water supply and agricultural needs

Conclusion

- Africa has low access rate to global resources, and therefore requires substantial resources and effective financing instruments
- Africa's needs are enormous and resources can come both from public and private sources
- The delivery of finance for adaptation and mitigation needs to be scaled up through regional institutions, given their strong regional ownership
- AWF is an example of how investments and policies can deliver multiple benefits simultaneously:
  - Agricultural and income benefits through more efficient water use and better planning
  - Climate change mitigation and adaptation benefits through more climate-resilient water supply and sanitation

The Way Forward

- Stronger institutions capable of effective planning and management of shared water resources
- Enhanced regional cooperation and partnerships
- Improved legal and other instruments
- IWRM plans developed along with actions for implementation
- Better knowledge of water resources
- Strategic investments plans prepared for development of water infrastructure
- Resources mobilized for priority investments

AWF Funding Partners

African Water Facility
Facilité africaine de l'eau
Mobilising Resources for Water in Africa

- EC 
- Canada 
- France 
- Sweden 
- United Kingdom 
- Senegal 

BILL & MELINDA GATES *foundation*

- Denmark 
- Norway 
- Austria 
- Algeria 
- Spain 
- Australia 
- AfDB 

❑ **Total financing mobilized: EURO 136.4 million**

❑ **Resource Requirements for the Strategic Plan: EUR 140 million**

Thank you for your attention!

African Water Facility

TEL: + 216 71 10 20 55

FAX: + 216 71 10 37 44

Email: africanwaterfacility@afdb.org